

**Amendments to the Claims:**

The following claims will replace all prior versions of the claims in this application:

1. (Currently Amended) A computerized method for creating test item models and generating test item variants comprising:

obtaining a test item;

creating a test item model by:

identifying elements of the test item from which to generate variables,

generating the variables based upon the identified elements, and

defining the variables;

wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text;

receiving a plurality of constraints for a test item variant; and

generating with a computer the test item variant of the test item ~~using a processor~~ by generating values for the variables using a simultaneous constraint solver executed by the computer, wherein the simultaneous constraint solver resolves the plurality of constraints pertaining to the variables;

displaying the test item variant on a display screen for review by a user; and

accepting the test item variant for use as a test item for an examination.

2. (Previously Presented) The method according to claim 1, wherein said model creation further comprises specifying constraints that define a relationship among the variables.

3. (Previously Presented) The method according to claim 2 further comprising accepting and retrievably storing the test item variant.

4. (Previously Presented) The method according to claim 3 further comprising accepting and retrievably storing the test item model.

5. (Currently Amended) A computerized method for generating test item variants, the method comprising:

identifying elements of a test item or a test item model from which to generate variables;

generating the variables based upon the identified elements;

defining the variables;

wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text;

specifying constraints for the variables;

~~using a simultaneous constraint solver to generate~~ generating with a computer values for the variables using a simultaneous constraint solver executed by the computer based on the constraints ~~using a processor; and~~

generating with the computer a test item variant with the determined values;  
displaying the test item variant on a display screen for review by a user; and  
accepting the test item variant for use as a test item for an examination.

6-12. (Cancelled).

13. (Currently Amended) A computerized method for generating test item variants from test item models comprising:

generating test item models by:

obtaining a test item;

identifying elements of the test item from which to generate variables;

generating the variables based upon the identified elements;

defining the variables;

wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text; and

accepting the test item with defined variables as a test item model;

selecting a test item model;

simultaneously solving test item model constraints using a processor with a simultaneous constraint solver executed by a computer to generate values for variables of the selected test item model and generating test item solutions with the computer based on the selected test item model; and

~~displaying, accepting and retrievably storing valid test item solutions~~

displaying the test item solutions on a display screen for review by a user; and  
accepting a displayed test item solution for use as a test item for an  
examination.

14. (Cancelled).

15. (Previously Presented) The computerized method of claim 13 further comprising specifying constraints that define the relationship among the variables.

16. (Previously Presented) The computerized method of claim 13 further comprising displaying and retrievably storing the accepted test item model.

17. (Previously Presented) The computerized method of claim 13 wherein the test item model constraints are simultaneously solved using PROLOG IV and Test Creation Assistant constraint language.

18. (Cancelled).

19. (Previously Presented) The computerized method of claim 13 wherein variables can be defined by values which are variables.

20. (Original) The computerized method of claim 15 wherein the variables are new variables for which new constraints are defined as needed.

21. (Currently Amended) A computerized system for creating test item models and generating test item variants comprising:

a computer including a memory, wherein the computer is configured to execute ~~a method~~ steps comprising:

obtaining a test item;

creating a test item model by:

identifying elements of the test item from which to generate variables,

generating the variables based upon the identified elements,  
and

defining the variables;

wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text;

receiving a plurality of constraints for a test item variant; and

generating the test item variant of the test item using a processor by generating values for the variables using a simultaneous constraint solver, wherein the simultaneous constraint solver resolves the plurality of constraints pertaining to the variables.

22. (Previously Presented) The system according to claim 21, wherein the model creation further comprises specifying constraints that define a relationship among the variables.

23. (Previously Presented) The system according to claim 22, wherein the method further comprises accepting and retrievably storing the test item variant.

24. (Previously Presented) The system according to claim 23, wherein the method further comprises accepting and retrievably storing the test item model.

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25. (Currently Amended) A computerized system for generating test item variants, comprising:

a computer including a memory, wherein the computer is configured to execute ~~a method~~ steps comprising:

identifying elements of a test item or a test item model from which to generate variables;

generating the variables based upon the identified elements;

defining the variables;

wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text;

specifying constraints for the variables;

using a simultaneous constraint solver to generate values for the variables based on the constraints using a processor; and

generating a test item variant with the determined values.

26. (Currently Amended) A computerized system for generating test item variants from test item models, comprising:

a computer including a memory, wherein the computer is configured to execute ~~a method~~ steps comprising:

generating test item models by:

obtaining a test item;

identifying elements of the test item from which to generate variables;

generating the variables based upon the identified elements;

defining the variables;

wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text; and

accepting the test item with defined variables as a test item model;

selecting a test item model;

simultaneously solving test item model constraints using a processor to generate values for variables of the selected test item model and generating test item solutions based on the selected test item model; and

displaying, accepting and retrievably storing valid test item solutions.

27. (Cancelled).

28. (Previously Presented) The computerized system of claim 26, wherein the method further comprises specifying constraints that define the relationship among the variables.

29. (Previously Presented) The computerized system of claim 26, wherein the method further comprises displaying and retrievably storing the accepted test item model.

30. (Previously Presented) The computerized system of claim 26, wherein the test item model constraints are simultaneously solved using PROLOG IV and Test Creation Assistant constraint language.

31. (Previously Presented) The computerized system of claim 26, wherein variables can be defined by values which are variables.

32. (Previously Presented) The computerized system of claim 26 wherein the variables are new variables for which new constraints are defined as needed.

33. (Previously Presented) The computerized method of claim 1, wherein the simultaneous constraint solver resolves all of the plurality of constraints pertaining to the variable.